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Conditionality and Debt Relief

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To restore growth in highly indebted countries, debt reduction alone is not as efficient as simultaneously providing liquidity, debt reduction, and possibly conditionality. Indeed, many countries might not need debt reduction if liquidity and conditionality were available.

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Six years into the debt crisis, questions about the relevance of policy measures to alleviate the crisis still abound. Conditionality by international financial institutions and rescheduling by commercial creditors have been dismissed in favor of debt reduction as strategies for restoring the creditworthiness of heavily indebted countries.

Claessens and Diwan argue that the combination of conditionality and new private money — if properly interpreted and correctly implemented — should not be dismissed too lightly. They contend that liquidity (the availability of current resources) in the debtor country is probably as important an incentive for a country to invest and adjust as having a small enough debt stock outstanding.

Debt reduction alone, they argue, is not as efficient as simultaneously providing liquidity and debt reduction. Indeed, many countries might not need debt reduction if liquidity were available.

Conditionality produces efficiency gains by reducing creditor concerns that the debtor countries will “cheat” on their promises to adjust and invest. This reduced concern induces creditors to provide new loans and reduce the debtor’s liquidity constraints. Increased investment produces efficiency gains that can then be distributed between debtors and creditors, reducing the need for debt relief.

The combination of new money and conditionality will work if the debt stock is small enough and enough new money is available.

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CONDITIONALITY AND DEBT RELIEF

1. Introduction

Six years into the debt crisis, questions about the relevance of policy measures to alleviate the crisis still abound. The present state of affairs is often described as inefficient in the sense that potential efficiency gains which can lead to benefits for all parties involved exist but policies to achieve these gains are not being implemented. In particular, economic projects with a rate of return larger than the world interest rate are not undertaken in debtor countries. The present situation can in effect be viewed as the inefficient outcome of a prisoner's dilemma game: certain coordinated acts of creditors and debtors can therefore improve both their welfare.

In general, inefficiencies in this context are due to one (or a combination) of the three following factors: (i) coordination failures within each party coalition; (ii) the negotiating and bargaining process between the parties; and (iii) the lack of credible mechanisms that could be used to alleviate time-inconsistency problems. The first factor is fairly well understood: on the creditors side, the main problem derives from the difficulty of privately financing a public good (the so called "free-rider problem"); on the debtor side, the difficulty for the government consists of undertaking efficient measures that may hurt some constituency and benefit others (either because of lacking redistributive instruments or strong pressures from individual constituencies). We will not discuss this first factor here.

The second factor refers to the perverse incentive effect of a large debt outstanding on the willingness of the country to adjust and invest and on the willingness of the creditors to provide new financing. Without an injection of liquidity, additional investment is costly to the debtor as current consumption will have to be reduced, an unattractive alternative after six years of austerity that has lowered (for some countries) per capita consumption (and income) to levels below those of the early eighties.¹ Moreover, given the nature of the bargaining and negotiating process, the future benefits of austerity and investment will be shared between the debtor and the creditors, with a larger share of the benefits going to the creditors the more indebted the country is. This reduces the incentives for the country to adjust its investment/saving decisions in a way that is more compatible with their foreign obligations. At issue is thus the way in which the current costs and the future benefits of additional investment will be divided between the debtor and creditors, in the form of provision of current liquidity and future debt repayment, and whether more efficient sharing mechanisms can be designed in order to exploit existing growth opportunities and achieve a higher growth equilibrium.

If however, creditors are not willing to share in the costs of new domestic investments by extending new loans (or providing any other form of liquidity relief) and/or are not willing (or able) to precommit themselves to reduce their share of the future returns on

¹ In this context, investment should be interpreted broadly to include structural economic reforms of the debtor's country productive resources and all other policies that requires an expense of current resources in return for higher consumption in the future. Investment could thus include policies of industrial reorganization, trade liberalization, financial sector reforms, public enterprises restructuring, as well as fiscal reforms.

the investment (i.e., write off some of their claims), the (net) marginal return on additional investment will likely be too low for the debtor to justify the required current expense. Debtors would then be unwilling to undertake high investment levels. At the same time, its creditors will not be willing to extend new loans or to reduce their share of future output unless the debtor is able and willing to precommit itself to increase investment, as the moral hazard risk of the new resources largely going to current consumption, instead of to investment, will be too large. Inefficient behavior from both the creditors and the debtor can then rationally co-exist as the outcome of this prisoner's dilemma. The result is a low growth but time consistent equilibrium. Creditors will try to grab as much as possible of current resources and the debtor will underinvest in an effort to reduce future repayments. Both would be better off with more efficient contracts: smaller current net transfers and higher investment levels, and a different sharing of output in the future.

This paper will discuss the nature of the efficiency gains that can be obtained and analyze the limits that moral hazard and time consistency problems impose on the feasible efficient allocations. The main focus of the paper will be to look at the additional efficiency gains due to the existence of a precommitment technology. The paper will analyze how efficient high growth equilibria can be achieved through the use of a precommitment technology for investments. Allowing for investment precommitments results in equilibria which Pareto dominate time consistent equilibria. The efficiency gains arise from the possibility of attracting more capital to invest in productive projects, leading to gains which can be distributed such that both parties at least as well off as in the status-quo, low-growth equilibrium.

The analysis yields important policy implications, with particular important interpretations for the concepts of conditionality and debt relief. The paper shows that debtors that have lost their credit-worthiness fall in two broad categories: those that experience a weak debt overhang and those that are in a strong debt overhang. In cases of weak debt overhang, new loans and precommitments on investment can be sufficient to restore credit-worthiness and achieve a high growth equilibrium. However, in cases of strong debt overhang debt relief is also needed. In this latter case, the third party, e.g., multilateral institutions, should refuse to provide the precommitment technology unless a portion of the outstanding debt is written off. Otherwise, new (conditional) loans cannot lead to a restoration of credit-worthiness. The important problem the precommitment technology raises for the third party (e.g., the multilateral) is how the efficiency gains will be distributed between the creditors and the debtor. Besides strategic concerns, the existence of externalities can influence the choice of the multilateral.

The paper is structured as follows: in section 2, we set up a simple model that captures the interactions between the debtor country and creditors without precommitments, and we study the optimal actions between creditors and the debtor country. In section 3, we study the optimal actions of the debtor country and the creditors under the assumption of an effective precommitment technology provided by a third party. Section 4 provides an interpretation of the precommitment technology in terms of multilateral lending and draws implications for the way in which multilaterals operate. This section also discusses the importance of externalities involved in situations of a debt overhang and their effect on the way the multilateral uses its precommitment technology for the benefit of the debtor or creditors.

Section 5 concludes by outlining important extensions and further research topics.

2. Equilibria Without A Precommitment Mechanism

We start our analysis by ignoring precommitment possibilities. The investment decision is then determined by the debtor after new loans have been disbursed, i.e., in an ex-post optimal fashion. The focus is on the (standard) inefficiencies of a large external debt which debtor and creditors will try to overcome by making offers to each other and, potentially, bargaining over these offers. The lack of precommitment mechanism restricts the resulting allocations to be at best Pareto efficient in a constrained sense. How further improvements can be secured using a precommitment technology is discussed in section 3.

2.1 A Simple Model

In order to highlight the effect of debt policy on the efficiency of the intertemporal allocation in the debtor country, the analysis is cast in terms of a simple two period, certainty model. We consider a small, one good, open economy close in spirit to the economies of Krugman (1987), Froot (1988), Corden (1988) and Sachs (1988). The country is each period endowed with an exogenous supply of a good, which can be used for consumption, repayment of loans or investment. The country is a price taker in the international goods and credits markets and has an inherited stock of foreign debt with an implied obligation of D_0 .

The country is governed by a central planner, who maximizes a welfare function subject to resource constraints. Decisions must be made regarding new external borrowing and the allocation of current resources between domestic investment, consumption and external debt repayment. The timing of the decisions is as follows: in the first period the planner may borrow abroad subject to supply constraints;

the available resources are then divided by the debtor country between investment and consumption; in the second period, the country makes transfers to the creditors from its endowment and the return on its first period investment, and consumes the remaining resources.² It is assumed that the creditors have a "gunboat" technology for capturing all of the country's second period resources in case output falls short of the amount of debt service due and the country defaults.³

The economy can be represented by the following five equations:

- (1) $W = U(C_1) + bC_2$
- (2) $C_1 = E + L - I$
- (3) $C_2 = E + f(I) - R$
- (4) $R = \min[E + f(I), D]$
- (5) $P = R - L$

where E is the country's endowment of the good in each period; C_i refers to aggregate consumption in period $i=1,2$; I denotes the investment level; $f(I)$ the return on investment in the second period with $f' > 0$ and $f'' < 0$; L is the amount of resources (liquidity) lent in period one; and D is the required repayment in $t=2$ (which includes the repayment on loan L). The actual repayment next period is given by R . The debtor's welfare is given by equation (1): $U(C_1)$ is a first period utility function which satisfies the usual concavity and Inada conditions and b is the country's discount factor. For analytical convenience, second period utility is chosen to be linear.⁴ We assume

² The results of the model would not change if it was assumed that the country also transfers an amount of resources to the creditors in the first period, as long as that amount is independent of its investment decision.

³ Assuming that the creditors can only obtain part of the country's resources in event of a default does not change the major conclusions of the analysis, but drastically complicates the algebra.

⁴ This avoids having to deal with risksharing considerations. The

that the world interest rate is zero for analytical convenience. To reflect the relative scarcity of capital in the debtor's country, the country's discount factor is assumed to be below the world's discount rate, i.e., $b < 1$. The creditors net payoff, equation (5), is the difference between the amount actually repaid next period and the amount of resources lent this period: the amount of debt outstanding, D_0 , is considered a sunk cost.

2.2 Inefficient Investment

There is room for Pareto-improvement if, due to the large debt overhang, the country is not undertaking investment opportunities which, evaluated at the world's interest rate, are profitable in themselves.⁵ The model incorporates two broad factors that generate incentives to underinvest: the scarcity of liquidity and the attempt to evade future debt repayments.⁶

A. Liquidity Considerations

The opportunity cost of current investment -in terms of forgone current consumption- increases with the scarcity of current resources. As a result, the country's effective rate of time preference becomes larger than the world interest rate, rendering investment opportunities that are valuable by international standards

qualitative outcomes of the model are not affected, however.

⁵ In other words, there is underinvestment when $f'(I) > 1$.

⁶ Other effects of a debt overhang will not be analyzed here. For example, the temptation to choose riskier projects in a go-for-broke strategy has been well described in the corporate finance literature. In a go-for-broke strategy the country can make investments worthwhile if they are risky enough and pay off sufficiently in good states of nature to pay back the creditors and yield some return to the debtor. The outcome in bad states of nature is of less interest to the debtor as all or part of the rewards will go to the creditors anyway.

unattractive.⁷ New foreign lenders will not finance these profitable investment opportunities when the line of existing external creditors is already too long. But, existing foreign creditors might want to finance new investments in order to increase the size of the economic pie to be divided next period between them and the country as long as they are assured that (part of) their new loans will be used for investment. However, the country decides after having received the new loans how to divide its resources between optimally between investment and consumption. The ex-post tradeoff of the country will lead the country to invest less than the amount of the loan provided. The creditors will take the debtor's ex-post tradeoff into account in making their ex-ante decision regarding new loans. This time consistency, or ex-ante versus ex-post, problem is exacerbated if the debtor is liquidity constrained and, after receiving new loans, is unwilling to sacrifice consumption to undertake all profitable investment projects.

To illustrate this relationship between investment and liquidity, we solve for the country's investment problem given an amount of liquidity L and assume for the moment that the large contractual debt repayment next period does not constitute a disincentive to invest. The maximization of welfare, (1), subject to (2) and (3), implies that I^* is an implicit function of liquidity, L , which satisfies:

$$(6) \quad f'(I^*) = U'(E+L-I^*)/b.$$

⁷ The liquidity constraint is a reflection of the relative scarcity of resources in the debtor country. It is specially meaningful in highly indebted countries where real income has declined markedly in the recent past. In this regard, it is worth pointing to the fact that capital accumulated abroad by the private sector (capital flight) does not provide the public sector with resources it can tap. Thus, public investment could well be constrained by liquidity considerations even when a segment of the private sector has accumulated reserves abroad.

When the debtor is liquidity constrained, he will be unable to reduce U' to the level of his discount factor b and equate his intertemporal marginal rate of substitution for consumption to the world interest rate, 1. The marginal return on investment, f' , will exceed 1 in this situation and valuable investment opportunities will therefore be foregone. An increase in liquidity L would, of course, release the liquidity constraint and would increase I^* as part of the new resources would be invested.⁸

B. The Tax Effect Of A Large Debt

When the amount of foreign debt outstanding D_0 is large enough, the associated future repayment obligation can act as a disincentive on investment as a share of the gross return on investment can go to the creditors and not to the country. This has been called the tax effect of a large debt.⁹ The "gunboat" technology in the model highlights this effect. When the future debt obligation D is large enough, the debtor can expect that all of its future resources will be seized by its creditors. It then becomes rational for the country to consume all current resources and to invest none. This occurs when (using equation (6) and assuming rational expectations) D is large enough to make welfare with investment $I^*(L)$ and debt repayment D , i.e., $W = U(E - I^*(L) + L) + b(E + f(I^*(L)) - (D))$, lower than welfare under no investment and default, i.e., utility level $U(E + L)$.

⁸ It is easy to show that $0 < dI^*/dL = U''/(U'' + bf'') < 1$.

⁹ Sachs (1988) has first analyzed the effects of a debt overhang this way. The tax effect can operate either on the incentives of a central planner governing a country or, in the context of a market economy with a large public debt, on the investment incentives of the private sector. In the later case, the investment disincentives arise from the expectation of the increased future taxation that is necessary to operate a transfer from the private sector to the public sector.

Summarizing, the debtor country will choose to invest $I^*(L)$ and repay D when the debt outstanding satisfies:

$$(7) \quad D \leq E + f(I^*(L)) - [U(E+L)/b] + [U(E - I^*(L) + L)/b] = D^{\max}(L, I^*(L))$$

As I^* is a function of L one can write $D^{\max}(L, I^*(L))$ as an (implicit) function of L alone, i.e., $D^{\max}(L)$. In effect, $D^{\max}(L)$ is the maximum amount that creditors will be able to receive from the country if they provide new loans in the amount L . If creditors asked for more, the debtor would prefer not to invest and to repay next period only E . This would imply that creditors would end up getting less than D^{\max} . However, when the creditors asks for less than D^{\max} , or outstanding debt is below D^{\max} , the debtor will invest I^* in an ex-post optimal fashion and repay its full amount. If the inherited debt exceeds D^{\max} a write off of the old debt to the maximum level, $D^{\max}(L)$ will increase the debt repayment and the economic pie.

It is easy to check that D^{\max} is an increasing function of L . As the availability of larger current resources increases, this encourages investment which then increases the amount that can be extracted from the debtor.

The important implication of the dual liquidity and tax effect on investment is that, in general, the incentive for investment will depend on the amount of liquidity as well as on the amount of debt to be repaid next period. For efficiency gains, the optimal provision of incentives to repay will therefore have to be a mixture of liquidity relief and debt write-offs.¹⁰ We will concentrate in the remainder of

¹⁰ See Froot (1988) for an elaboration.

the paper on the case where inherited debt D_0 is larger than the maximum amount creditors can expect to receive without an amount of new liquidity, $D^{\max}(0)$.¹¹ In this circumstance, the debtor will not invest unless (part of) his obligation is written-off and/or he is granted some liquidity relief.

2.3 Pareto Efficient Allocations Without Precommitments

The status-quo of no write-offs and no fresh liquidity produces a utility level of $W_0=U(E)$ for the country and a payoff of $P_0=E$ for the creditors. The debtor and its creditors can now exchange offers about (L,D) , the amount of period one liquidity and the level of future repayment, to improve upon the status-quo.¹² Of course, we restrict all offers (D,L) to be time consistent. This implies that if an amount of liquidity L is advanced in period one, an amount $I^*(L)$ is expected to be, and will be, invested by the country. Subsequently, an amount D^* , consistent with the "gunboat" technology of the creditors and the debtor's tradeoffs, will be paid back in period two. This imposes two constraints: (i) the debtor is best off investing after receiving the loan, i.e., equation (7) holds; and (ii) the debtor cannot be better off after investing not repaying D and having its output seized, i.e., $[E+f(I)] \geq D$. As it turns out, the latter constraint is always satisfied when constraint (7) holds, so only constraint (7) is necessary.

A. The Debtor's Optimal Take-It-Or-Leave-It Offer

¹¹ With rational expectations, competitive lenders will actually lend voluntarily until the debtor obligation reaches the credit ceiling D_{\max} . Under uncertainty, large negative shocks that raised the burden of the debt relative to the credit ceiling (interest rate and exchange rate shocks, productivity and terms of trade shocks) could cause outstanding foreign debt to exceed D_{\max} .

¹² When a commitment technology is used, the offers will also condition investment and take the form of a triplet (I,L,D) . See further section 3.

To improve its welfare level beyond the status-quo utility level, W_0 , the debtor would want the creditors to lend more today (in order to reduce the liquidity constraint) and to commit themselves to reduce their share of future output (in order to eliminate the tax effect). In return, the debtor would be willing to invest more and repay a larger amount next period. Its preferred unilateral offer of liquidity and repayment levels (D^*, L^*) must satisfy the time consistency constraint (7) and it must leave the creditors no worse off than under the status-quo situation. In other words, it must, apart from (7), also satisfy:

$$(8) \quad P = D - L \geq P_0 = E.$$

The optimization problem for the debtor becomes then:

$$\text{Max } W = U(E - I^*(L) + L) + b[E + f(I^*(L)) - D]$$

D, L

subject to equations (7) and (8).

The problem is illustrated in figure 1 in (D, L) space. The welfare function of the country results in indifference curves which slope north-east. The creditors' indifference curves consist of 45 degree lines, such as lines (8), with the intersection of the lines with the vertical axis representing the net payoff P . The maximization of the debtors' welfare will imply the minimization of the creditors' net return P and therefore the constraint in equation (8) will always be binding. The debtor will thus choose its preferred point on the line marked (8) and will further be constrained by equation (7), represented by line (7). Assuming that the debtor has a relative preference for liquidity, it will then prefer increases in L over

reductions in D , and would want to move north-east along line (8). In that case, the maximal liquidity will be obtained at point B, a corner solution where the time consistency equation (7) will also be binding. Point A could lead to a higher utility because of the greater liquidity but is not feasible because it violates the time consistency constraint (7). If the preference for liquidity is however not as great as assumed, an optimal offer could be for example C.

If the offer (D^*, L^*) is accepted by the creditors, the resulting allocation would differ from the status-quo allocation $(E, 0)$ in the following ways: the creditors would provide liquidity relief to the amount of L^* and would write-off the outstanding debt from D_0 to D^* . Their total payoff would be unchanged, as more would be collected in the future to offset the new loan L^* , i.e., $D^* = E + L^*$. The debtor accepts to adjust by investing more, and by possibly imposing austerity, today in return for debt relief tomorrow, and is better off given his relative preferences for liquidity.

However, the time consistency constraint (7) will still limit the allocations and will not allow a fully realized investment potential.¹³ The liquidity constraint will bind and the debtor will want to increase L if he could. In order to leave the creditors as well off, this would imply an increase in the promised repayment D , which, however, will not be credible as the debtor will be better off, after receiving the loan, not investing at all. Although additional funds could be very productive if invested, they will not be forthcoming because, once new loans have been disbursed, the country

¹³ In other words, $U'(E + L^* - I^*) > b$ and therefore (using 6) $f'(I^*) > 1$. If the debtor is currently not too liquidity constrained, equation (7) will not be binding and $U' = b$, $f'(I^*) = 1$ (such as point C on figure 1). But for offers that give the creditors some larger payoff P equation (7) will be binding and not all profitable investment opportunities will be realized.

has little incentives to invest given the amount of outstanding debt obligations. Additional loans could be secured and larger efficiency improvements could be unlocked if the debtor could credibly bear a larger debt burden, by, for example, committing to a certain level of investment.

B. The Creditors' Optimal Take-It-Or-Leave-It Offers

The creditors, acting as a coalition, can construct a unilateral offer in terms of (L, D) , i.e., an amount of liquidity, L , and a required repayment next period of D , which can increase their net return, $P=D-L$, and leave the debtor at an as low as possible welfare level. The provision of liquidity L can increase the creditors' net payoff as the debtor will invest a fraction of the new resources, which can lead to a sufficient increase in next period's output, part of which output will be available for debt service.¹⁴

In choosing their optimal offer, (L^*, D^*) , the creditors must anticipate the investment reaction of the debtor. As before, this is given by the implicit function $I^*(L)$ that satisfies equation (6). The offer includes a reduction of the debt obligation in order to induce the debtor to invest I^* (i.e., constraint (7) holds). Since the best offer actually leaves the debtor indifferent between investing and not investing, (7) will be binding and will hold as an equality, i.e., $D^*=D^{\max}(L^*)$, resulting in an (implicit) function for D^* in terms of L^* . In terms of figure 1, the creditors will choose their preferred offer along the line corresponding to function (7), with their indifference curves being 45 degree lines and an increase in payoffs

¹⁴ This part of the model is identical to the case discussed by Froot (1988).

represented by a movement north-west.

Taken into account that constraint (7) is binding, the optimal choice (D^*, L^*) maximizes $P=D(L)-L$ with respect to L . The optimal amount of first period loans solves the first order condition:

$$(9) \quad 0 = [U'(E+L^*-I^*)/b] - [U'(E+L^*)/b] - 1 = f'(I^*) - [U'(E+L^*)/b] - 1$$

in which equation (6) is used. This equation solves, in an implicit manner, for L^* . In turn, equation (6) solves for I^* and equality (7) for D^* . The solution is represented as point F on figure 1. The creditors' offer will imply a lower repayment in period two compared to what the debtor would have offered in his own unilateral offer and a lower offer in period one of liquidity, but a higher net return ($Y > E$).

Investment I^* will be above the status-quo investment, $I=0$, which gives rise to the Pareto improvement. The creditors' payoff is increased from $P_0=E$ to $P^*=D^*-L^*=Y$ and the debtor's welfare is increased from $W_0=U(E)$ to $W^*=U(E+L^*)$. Interestingly, creditors need to share the efficiency gains from increased investment with the debtor in order not to induce the debtor to default after receiving the new loan.

From (9) we know that $f'(I^*) > 1$, implying that not all profitable investment opportunities in the country will be undertaken as L^* will not be large enough to release the liquidity constraint. Releasing the liquidity constraint is not a profitable strategy for the creditors as only a portion of these resources will be invested. As a result, the amount of collectable repayment, $D(L)$, will not rise enough to justify any additional loans. This is a reflection once more of the time

consistency problem and shows that further Pareto improvements could be secured if precommitments on investments were possible.

2.4 The Set Of Efficient Allocations Without Precommitments

In a similar manner, it is possible to generate all the feasible and efficient debtor's and creditors' unilateral offers that leave the other party at some other level of reservation utility. In figure 1, this set of possible Pareto improving allocations is represented by the curve FB: the creditors will want to be as close as possible to F while the debtor will prefer to be as close as possible to B. Interestingly, the higher the utility level of the debtor, the higher the investment level. This is because the debtor will try to get as much liquidity as possible, increasing its ex-post incentives to invest.¹⁵ On the other hand, the creditors will want to reduce future debt obligations as little as possible, implying lower levels of new liquidity and thus lower levels of investment.

This concept of bargaining over allocations has in reality been implemented through combinations of liquidity relief and debt relief occurring in the form of (multiyear) reschedulings with reduced terms (lower spreads). Creditors and the debtor bargain over the terms and conditions of the rescheduling with implicitly in mind a division of the gains of the additional investments as a result of the rescheduling.

¹⁵ Assuming the debtor always remains liquidity constrained.

3. The Effect Of The Precommitment Technology

A technology which allows the debtor country to precommit itself to an investment level can lead to overall efficiency gains as it can overcome the time inconsistency problem. The analysis above revealed that this problem was more important the more liquidity constrained the debtor was as the debtor would be even less inclined to invest any new resources. The tradeoff between investment and consumption changes after loans are disbursed: while ex-ante, the country prefers to promise to invest in order to secure larger loans, ex-post, the incentive to invest will be limited by the scarcity of liquidity. Of course, creditors realize this and limit the amount of lending such that the ex-post optimal investment and consumption decisions do not violate any creditworthiness considerations. This can lead to foregone investment opportunities as creditors are not willing to provide any new loans which, as they correctly perceive, could partly be used to finance current consumption. In this context, a precommitment technology could reduce disincentives and lead to efficiency gains. In fact, if this precommitment technology were available to them, the debtor as well as the creditors could use it to their advantage in constructing their offers, as it would allow them to increase to their advantage the size of the economic pie.¹⁶

In what follows, we show that the ability to make offers in terms of a triplet (L,D,I) will allow debtor and creditors to increase their payoff. The exact division of the efficiency gains depends on, among others, the bargaining position of the debtor and the creditors, and the objectives of the provider of the precommitment technology. The interpretation of the precommitment technology, e.g., conditional

¹⁶ Sachs (1989) and Aizenman and Borenszstein (1989) also discuss the benefit of a precommitment technology.

loans, and how and when it must be associated with debt relief in order to make provision of the commitment technology financially viable, is discussed in the section 4 of the paper.

3.1 The Debtor's Optimal Offer

Using the precommitment technology, the debtor is able to make an offer over (D, L, I) that maximizes his utility while leaving the creditors at their status-quo payoff of E . Since the debtor commits to an investment level I , the incentive compatibility constraint only requires that the debtor be creditworthy in the second period, i.e.,

$$(10) \quad E + f(I) \geq D.$$

The debtor will of course only make offers that make him better off than his status-quo welfare level $U(E)$.¹⁷

The effect of the precommitment technology is to replace the time consistency constraint (7) by the less demanding constraint that the debtor is better off investing I^{**} and repaying D^{**} , where $**$ denotes optimal amounts, than getting his status-quo welfare $W_0 = U(E)$. The constraint (7) becomes:

$$(7') \quad D \leq E + f(I) - [U(E)/b] + [U(E - I + L)/b] = D^{\max}(I, L)$$

¹⁷ Note that strictly speaking the reservation utility under precommitment is $U(E)$ and not $U(E+L)$ as under the no precommitment case, as the offer does not have to satisfy the time consistency constraint. It would be logical, however, to impose the condition that the debtor will not make offers using the precommitment technology will which result in a lower welfare level than offers without precommitment. This point was also raised by the discussant, Guillermo Calvo. See further his comments.

The creditworthiness constraint (10) requires that $D \leq E + f(I)$. Equation (10) and (7') together imply that when $U(E) < U(E+L-I)$ equation (10) will be the most binding constraint and that when $U(E) > U(E+L-I)$ equation (7') will be the most binding constraint. As we had assumed that the debtor had a high liquidity preference, his optimal offer will satisfy $U(E) < U(E+L-I)$, implying that equation (10) will be the most binding constraint for the optimization problem. Using the fact that the creditors' payoff P is equal to $E - D - L$ (equation (8)), the restriction (10) can be further modified to $f(I) \geq L$. The problem to solve becomes then:

$$\begin{aligned} \text{Max } W &= U(E - I + L) + b[E + f(I) - (E + L)] \\ L, I \\ \text{s.t. (10) } &E + f(I) \geq D \text{ (or equivalently } f(I) \geq L) \end{aligned}$$

Denoting by n the Lagrange multiplier associated with the constraint (10) the first order conditions yield:

$$(11) \quad U'(E + L^{**} - I^{**}) = (b + n)f'(I^{**}) = b + n$$

This implies that $f'(I^{**}) = 1$. In terms of figure 1, the debtor chooses its preferred offer on the line (8) subject to the allocation being below the line (10). When equation (10) is binding ($n > 0$), L^{**} will be equal to $f(I^{**})$ and D^{**} will be equal to $E + f(I^{**})$, implying that the debtor's second period consumption will be zero as all resources go to service the debt and that first period consumption will be above E as $L^{**} = f(I^{**}) > I^{**}$. In this case, the debtor, using the precommitment technology, prefers to transfer resources to the first period, which would be in his interest if he had a high liquidity preference, something which we assume is the case. The optimal offer will therefore be at E with equation (10) binding.¹⁸

The solution will certainly be a Pareto improvement over the status-quo allocation. More importantly, if accepted, the offer (I^*, L^*, D^*) can yield a welfare level for the debtor which is higher than the welfare level that can be achieved with his best offer without an investment precommitment. The effect of the precommitment technology is to allow the debtor to commit to a higher investment in exchange for a larger loan. To keep creditors as well off, the optimal offer will also involve a one-to-one larger debt repayment. Thus, the debtor gain is the net return (above the world interest rate) on investment projects that would not have been undertaken without the use of the precommitment technology and the higher availability of current liquidity.¹⁹

3.2 The Creditors' Optimal Offer

Equipped with a precommitment mechanism, the creditors can make an offer of the form (D^*, L^*, I^*) which involves an offer of D and L and includes the debtor to precommit to a certain investment level I . It will be in the creditors best interests to structure the offer so as to leave the debtor at its status-quo welfare level $W_0 = U(E)$.²⁰

¹⁸ It is also possible that the credit ceiling (10) does not bind. Then, $n=0$, and $U'=b$. In this case, debt repayment does not consume all of future output as the debtor does not borrow all that is available.

¹⁹ However, not all feasible allocations with a precommitment technology yield a higher welfare level for the debtor than under no precommitment technology: the effective reservation utility of the debtor under no precommitment was $U(E+L^*)$ while here it is $U(E)$. Assuming that the debtor will not use the precommitment technology (or the provider of the technology refuses the use of it) in constructing its offer if it does not benefit the debtor, the reservation utility would be $U(E+L^*)$ and the set of feasible allocations would be somewhat smaller.

²⁰ However, the debtor could refuse such an offer since he can secure a larger payoff $U(E+L^*)$ if the precommitment technology was not used. It is possible to show that the creditors can design offers with precommitment that leave the debtor as well off as offers that do not

Creditors maximize their net payoff over the choices of D , L and I subject to keeping the debtor at least equally well off and a creditworthiness constraint, i.e.,

$$\begin{aligned} \text{Max } & P=D-L \\ \text{L,I,D} & \\ \text{s.t. (10) } & E+f(I) \geq D \\ \text{and (7')} & U(E+L-I)+b[E+f(I)-D] \geq U(E) \end{aligned}$$

The first order conditions for this maximization problem imply that creditors' optimal choice of investment I^{**} is such that $f'(I^{**})=1$. The creditors maximize the returns from investments using the international cost of capital as the opportunity cost. In effect, they run the country. As a result, the investment level will be higher than that achieved under the no-commitment offer (but equal to the investment level achieved with the debtor's offer under the precommitment case). Equation (7') will certainly be binding as the debtor will be left with a utility level of $U(E)$. Thus, the preferred offer will be on the curve (7') in figure 1. With a strong preference for liquidity (10) will also be binding, resulting in the (corner-solution) optimal offer represented by point H. In this case, the creditors will set $L=I^{**}$ and $D^{**}=E+f(I^{**})$. The debtor is as well off as without an offer but worse off than under the offer without a precommitment technology. Thus, the precommitment technology in this context hurts the debtor but profits the creditors. Note that potentially, if D_0 is not too large, debt does not need to be written off.

include a precommitment.

3.3 The Multiplicity Of Efficient Allocations

The outcome of the interactions between the creditors and the debtor will not necessarily produce an allocation that correspond to a unilateral offer; rather, the equilibrium chosen would be the result of bargaining process between the debtor and the creditors and, potentially, the provider of the precommitment technology. For this purpose it will be useful to first describe the new set of feasible allocations.

In Figure 1, the contract curve with precommitment is depicted as segment HE. This represents the set of all efficient allocations (D,L,I) for which improving one's side welfare necessarily requires hurting the other party. These are first best allocations since all profitable investment projects are undertaken. At H, the debtor is equally off as at the status-quo allocation as all the efficiency gains are collected by the creditors. On the other hand, at E, the debtor is better off than in all previous allocations as he gets all the new efficiency gains. The other allocations represent all other ways of sharing the economic pie with precommitment.

3.4 Weak and Strong Debt Overhangs

Depending on whether debt write-offs are necessary to achieve efficient allocations with investment precommitment, we can classify situations of debt overhang into two broad types, a weak and a strong form. This classification depends on who's point of view is being

addressed, the debtor or the creditors. We will address this issue from the point of view of the creditors, as the creditors always prefer less write-offs, and define the set of extreme cases where in spite of the commitment technology being used to their sole advantage, the creditors coalition still need to write-off debt.

We will define a debt overhang as a situation in which the provision of liquidity, without any precommitments, is not sufficient to restore creditworthiness and lead to full repayment. For a debtor country experiencing a debt overhang, debt reduction will be necessary in the absence of a commitment technology. In terms of figure 1, a debtor with outstanding debt before new loans are advanced above point Y will be perceived by creditors to have a debt overhang. In effect, Y corresponds to $D^{\max}(L^*)$, the maximum repayment next period given the optimal amount of loans L^* without precommitments. Whenever D_0 is above Y the creditors best offer is represented by point F in figure 1 and includes new loans (i.e., $L^* \neq 0$). All other feasible offers on line (7) yield smaller payoffs to the creditors. In order for total debt outstanding -after the new loan L^* has been advanced- to satisfy the creditworthiness constraint, it can not exceed $D^{\max}(L^*)$ and outstanding debt above that must be written off.

It is easy to show that the existence of a precommitment technology can transform the situation of some debtor countries experiencing a debt overhang into a situation of a overhang that does not necessarily require a debt write off to attain an efficient allocation. This leads us to the following classification of debtors:

(i) Weak debt overhang

When outstanding debt is large enough to create a debt overhang

but not too large, the status-quo allocation can be improved upon using the precommitment technology without a reduction in the contractual debt obligation. In figure 1, this corresponds to the situation where inherited debt D_0 is below point X. The availability of new loans L^{**} which are conditioned on an investment level I^{**} can induce sufficient investment to restore creditworthiness and to raise the value of the outstanding as well as the new debt to par.

(ii) Strong debt overhang

Inherited debt is so large that the status-quo low equilibrium allocation is preferred by the debtor unless debt is written off. In this case, it is impossible to use the precommitment technology to anybody's benefit unless the creditors reduce the contractual obligation of their claims. This corresponds to a situation with inherited debt above point X in figure 1. In this case, we have seen that only when the creditors give an upfront debt write-off will the debtor be interested to regain creditworthiness and increase the value of the outstanding debt.

4. Implications for Conditionality and Multilateral Lending

As various multilateral lending institutions provide conditional loans to countries with conditions over micro and macro economic aspects of public policy, it is logical to think of the provider of the precommitment technology as a multilateral. The ability of the multilaterals to provide precommitments, "conditionality", is derived from their capacities in terms of economic analysis, their long term relations with the countries and from their status as international organizations. The precommitment technology is made operational through making the multilateral's own disbursements conditional on policy actions, through linking other lenders' financing and disbursements to the multilateral's own actions and, in general, through the long term relationship with the country.

The influence of the multilateral goes often beyond the exact amount of the resources it provides and covers larger parts of the public sector influence on the economy, as for instance in the World Bank's Structural Adjustment Lending. Furthermore, the multilaterals can provide guarantees to other creditors, which in this context, can act as one-to-one substitutes for its own lending.

For the multilaterals to be able to finance their operations, they must earn some fair rate of return on their loans. This can be a very difficult task in times of a debt crisis with a literal evaporation of voluntary private finance for the most highly indebted countries. However, injections of liquidity can only be made profitable by the multilaterals conditionality in cases of weak debt overhang. One could expect that the injection of liquidity coupled with conditions on good economic policy will solve the credit-worthiness crisis by increasing output sufficiently. In these cases,

by providing liquidity against an accepted commitment to an investment program, the multilateral creates efficiency gains that are large enough to get a debtor to regain its credit-worthiness.²¹ In fact, the exact amount of the loan is not important. Conditioning on amounts of "investment" that go beyond the amount of the multilateral loan provides enough incentives for other creditors to lend.

But in cases of strong overhang, an injection of liquidity by a multilateral institution will not help as the economic investment incentives will still be lacking; when all is done, the economic pie will not be larger as the new liquidity will be used mainly to finance consumption. In other words, a true conditional lending program is unacceptable to the debtor. If the multilateral is granted seniority rights over the other creditors, it will however accept to inject some liquidity, but that could not be in the form of a conditional loan, as the debtor would not accept it. In that case, the old creditors will end up with the total payoff for all creditors minus the amount of new senior loans by the multilateral.

Therefore, in situations of strong debt overhang, the multilateral cannot enforce an efficient allocation using conditional loans unless the old debt obligation is reduced. The relative lack of conditional lending programs in the least credit-worthy countries can thus be rationalized given the (past) unwillingness of creditors to grant debt relief. In those cases, a return to credit-worthiness is impossible without either some form of debt relief or very favorable external developments (terms of trade, interest rates). In a situation

²¹ Another way to make injections of liquidity by multilaterals profitable is for the debtors to grant some form of seniority to multilateral loans. However, in cases of weak overhang, this is not necessary if conditionality works and leads to creditworthiness. In general, seniority rights are more meaningfully analyzed in the context of a model of lending under uncertainty.

of strong debt overhang, lending (a large part of) the necessary liquidity L^* by a multilateral and associated conditioning on investment level, combined with debt relief by other creditors can be an overall efficient solution. The old creditors might be unwilling to provide (all) the new liquidity necessary to make the efficiency gains feasible (L^*) given factors like uncertainty and constraints on their capital. However, they might be willing to write down their debt, contingent upon assurances regarding adjustment and investment, to the level D^* minus the new loans provided by the multilateral, L^* , i.e., to $D^* - L^*$. The multilateral will then collect a sufficient part of the efficiency gains to assure a return of L^* . The other creditors net payoff will remain the same, $P - D^* - L^*$, as in the case in which they themselves provided the liquidity, but they have avoided putting up any new liquidity. The write-off is a necessity as the multilateral will not be able to "sell" its conditionality without a debt write-off.

The existence of externalities can play an important factor for the multilateral in terms of how to distribute the associated efficiency gains over the debtor country and the creditors. The most important external factors that can influence the preference of the multilaterals regarding the division of the efficiency gains they help create are: a preference for a stable international financial system; a preference for growth in the debtor countries and for larger world trade; and some preferences induced by the geo-political objectives of its members. Considerations regarding the stability of the international financial system would presumably lead the multilateral to divide the efficiency gains associated with its technology more towards the creditors (i.e., towards point H in Figure 1). On the

other hand, the preference for growth and for efficient world trade provides the multilateral with incentives to agree to a division of the efficiency gains in a way that is compatible with a rapid resolution of the bargaining deadlock. This is because, in the absence of a coordinated debt relief, countries with a large debt overhang will get stuck in a low growth situation. Moreover, they will tend to opt for a less open trade regime to reduce the impact of penalties imposed by creditors (for instance in the form of cutoffs of trade financing). Finally, the governments of the creditor countries share the responsibilities for the resolution of problems in highly indebted countries not only because their policies regarding the debt problems can be in the economic interest of their countries but, more importantly, because their policies can serve their geo-political interests. The multilateral might have to reflect these geo-political interest in the design, and associated division, of the efficiency gains of its precommitment technology. Further research will have to include the externalities associated with a debt overhang to evaluate whether the actions of parties involved are also "socially", in terms of maximizing world welfare.

As a result, one can argue that the multilateral will set the following conditions for the use of its technology: i) its own financial concerns are taken care off, and/or its fixed costs of developing and maintaining the conditionality technology are recovered; ii) the negative externalities are handled in an appropriate fashion; and iii) the remaining gains, if any, of the technology are properly and/or fairly divided.

5. Conclusions

The paper has shown that a precommitment technology can lead to substantial efficiency gains in the context of a debt overhang. For some countries, the existence of a precommitment technology can be sufficient to avoid all future debt writeoffs. In general, the existence of a precommitment technology leads to efficiency gains. The exact division of the larger pie will depend on the strategic interactions between the debtor and creditors, but, more importantly, on the objectives of the provider of the precommitment technology.

The paper can be used as a starting point to study the implications of uncertainty and asymmetric information on the outcome of bargaining between debtor and creditors and its implications for more efficient strategies. This would allow a further analysis of the difficulties in the implementation of efficient debt write-offs in cases of strong overhang and the explanation of the current strategy of muddling through as a pooling equilibrium. Various financial tools used by creditors and debtors which, at first face value, do not seem to generate financial benefits, might then be explained in terms of providing some screening and signalling benefits. The analysis can then be used to evaluate the effects of market based transactions by the debtor or by outside investors, e.g., debt buybacks, debt conversions and deb-equity swaps, on the efficiency of the equilibrium.²²

A further important issue is in some sense the time-consistency of the model in this paper itself: if creditors and debtors had this precommitment technology at their disposable all along, why did they

²² See Diwan and Claessens (1989) for further work along these lines.

not use it and "prevent" some forms of debt overhang? The technology can after all generate, as the paper shows, efficiency gains even in a situation of no debt overhang as it alleviates the time consistency constraint. However, the reconciliation of the ex-post and ex-ante optimality of this model, and of models in general, might require a more powerful framework.

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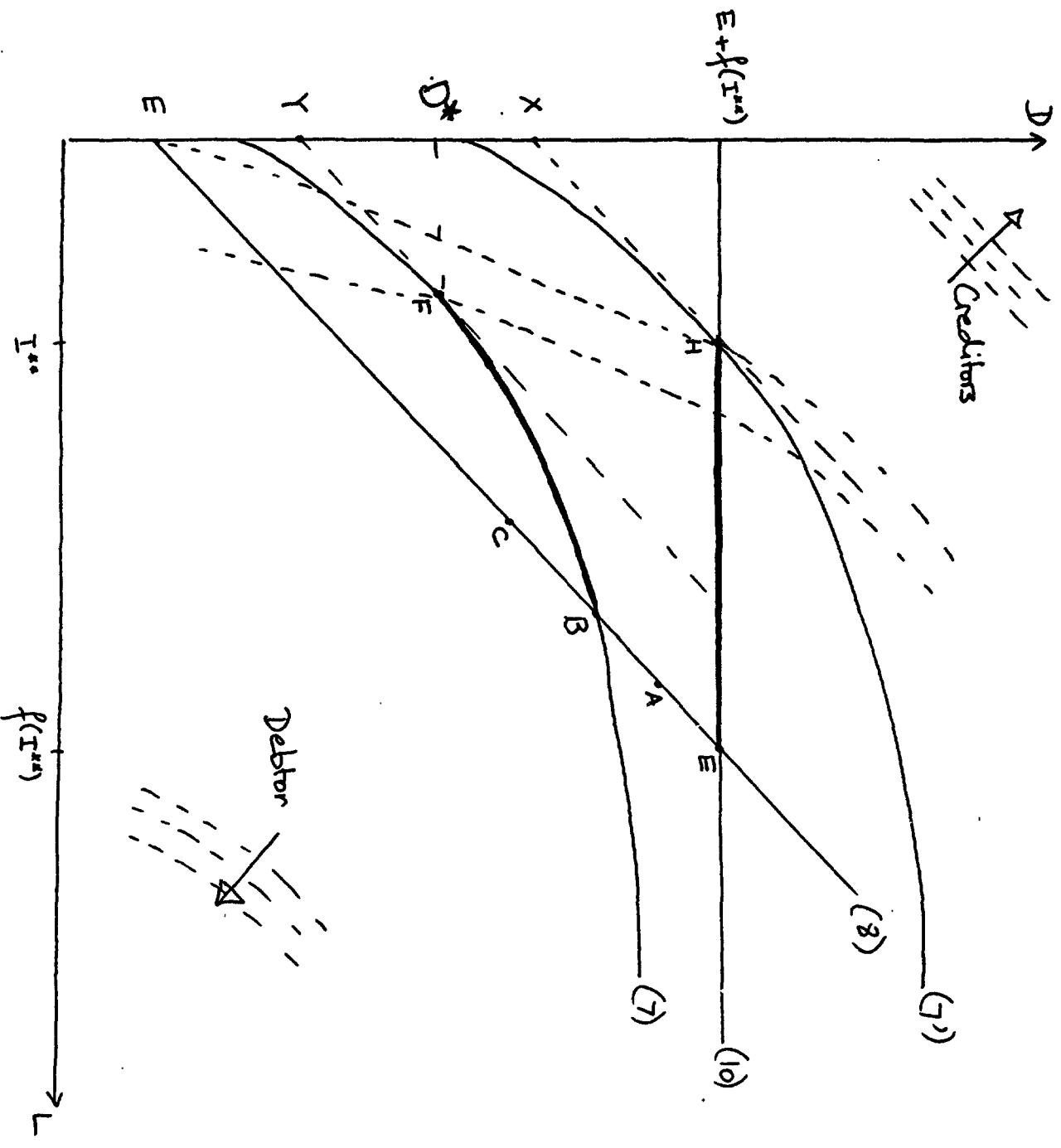
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Figure 1



"CONDITIONALITY AND DEBT RELIEF,"

by S. Claessens and I. Diwan

A Comment by Guillermo A. Calvo,

January, 1989

I. Introduction

This is a nice paper that puts together several crucial aspects of the so-called debt problem. Prominent among those is the possibility that the debt overhang prevents the world from attaining a Pareto optimum allocation.

The debt-overhang problem appears to have been first noticed in writing by Sachs (1986). The theme was later explored by many authors: Corden, Dooley, Froot, Krugman, Helpman, to name just a few. A central message of this literature is that spontaneous market forces may not be able to lead the system to a Pareto optimum, unless lenders are persuaded to work as a block.

The main novelty of the present paper is that it complicates the usual story in a relevant way by assuming that the borrower can cheat (or, in the paper's language, that the borrower can be time inconsistent due to his inability to precommit). This has the interesting implication that the Pareto optimum solution may not be attainable even when the lenders are able to overcome their free-rider problem, simply because the borrower cannot make credible commitments. Thus, the paper reaches the important conclusion that a precommitment technology may be as crucial for Pareto optimality as the above-mentioned coordination among lenders. One way to obtain precommitment on the part of the borrower is to subject him to (credible) third-

party type loan conditionality. The authors, however, do not elaborate on how to make conditionality stick. . .who will bell the cat, as it were. Nevertheless, the paper has identified a crucial ingredient in the solution of the debt problem.²³

I find myself in almost complete agreement with the results of the paper, although I feel that some of them need a more careful qualification. Since the central issues are important, I will, first present an alternative simpler model that captures the main features of the Claessens-Diwan (C-D) paper. Then, I will discuss some of their central results, and show new ones inspired by their framework. Section 3 closes these comments with some general remarks.

II. A Simple Model

The whole action occurs "tomorrow." Output tomorrow is a function of investment today; the production function is $f(N)$, where N stands for "new money." For the sake of dramatic effects, I will assume that $f(0)=0$, i.e., no new money, no output. Otherwise, f is as usual assumed to be strictly increasing and concave. New money, N , is lent only if it receives the international interest rate r . Therefore, if the borrower takes the loan N and employs it to invest, his net income tomorrow will be

$$(1) \quad f(N) - (1+r)N - D$$

²³ The sovereign-country debt literature before the current debt crises put the possibility of cheating at the center stage (see Eaton, Gersovitz and Stiglitz (1986)). This feature was later somewhat downplayed in the discussion of lenders-coordination problems. The present paper can, therefore, be seen as a recognition that the ideas that helped to explain why Pareto optimality could not be attained with free international loans are also relevant for understanding why the debt crisis could be deeper than a neoclassical economist would be led to believe.

where D denotes initial debt. This curve is represented in Figure 1 for different initial debt levels. Notice that these curves peak at the Pareto optimal point, P , at which the gross marginal productivity of capital, f' , equals the interest rate factor $(1+r)$.

Let us now consider the case in which if the debtor is bankrupt, i.e., if expression (1) is negative, then every creditor gets repaid in proportion to his claims. In other words, if (1) is negative, we assumed that new-money lenders get

$$(2) \quad f(N) \cdot (1+r)N / [(1+r)N + D]$$

while the difference goes to the holders of the original debt documents. We refer to this as the "equal-sharing" system.

It follows immediately that under the equal-sharing system, no new money will be forthcoming if $D = D''$ as depicted in Figure 1. This corresponds to what the authors call a "strong" debt overhang. On the other hand, if $D = D'$, new money will be lent if the money is invested (and a gunboat technology, like in $C-D$, ensures repayment). This is the case of a "weak" debt overhang.

As mentioned earlier, $C-D$ assume, in addition, that the borrower can cheat by consuming or squandering the new money, so gunboats or not the proceeds of the new money become irretrievably lost for the lender. Figure 1 depicts two different cheating technologies, denoted cheat-1 and cheat-2. Each of these curves shows the net output that could be secured by the borrower if he does not invest the new money and employs it, say, for consumption. Hence, if cheat-2 is the relevant function, the borrower would be unable to obtain any new

money even in the weak-overhang situation. This is so, because cheating always yields higher utility than investing and paying back the competitive interest rate. Under these circumstances, equilibrium net income is zero for the borrower, and the original debt is fully repudiated.

The advantages of a third party that eliminates cheating opportunities in weak-overhang situation with a cheat-2 technology are clear. For, such an arrangement would automatically assure that P units of new money will be borrowed, thus ensuring Pareto optimality, positive net income for the borrower, and full repayment of debts. No doubt, the magic wand of conditionality (or, rather, precommitment) works wonders in this case! This is one of the central and, certainly, one of the most dramatic results of the paper.

A third party may not be necessary if the cheating technology is below cheat-1; for, if $N=P$ then there would be no incentives to cheat. The importance of this observation will become apparent after we discuss the strong-overhang case.

Suppose now that $D=D''$ and the economy is, therefore, in a strong-overhang situation. Obviously, under the equal-sharing system, cheating does not help getting out of the low-level equilibrium. As noted by the authors, however, debt relief can help to get to a Pareto superior situation. For example, if lenders forgive $D''-D'$ and cheating is prevented, then, as noted above, all the characters in this play get positive payoffs.

Suppose that lenders move first and that they unilaterally decide the amount of debt relief. The debtor moves second and chooses N , subject of his being able to make credible repayment promises.²⁴

Obviously, if cheating could be prevented, the original lenders would grant the minimum debt relief consistent with positive repayment of the original debt. In terms of Figure 1, the latter implies lowering debt obligations from D'' to D_c (c for "critical"). Suppose now that cheating is possible and that the relevant technology is cheat-1. Clearly, under these circumstances, debt has to fall to at least D_c' . If debt relief is $D''-D_c$, Pareto Optimality is not achieved because the only level of new money which will lead to cheating is N_c' .²⁵ However, the borrower is better off when cheating is possible. This shows the possibility that a third party may tilt the scales against a debtor country by imposing credible conditionality. This is an important point which is not mentioned in the paper, and which seems to have been somewhat missed by the debt literature (see, however, Calvo (1989)).

In the C-D paper it is further assumed that the original lenders can also determine the amount of new money, N . Results, however, are basically the same. Thus, for example, with no precommitment and a cheat-1 technology, one can easily show that equilibrium debt relief will be, as before, $D''-D_c'$, and new money will be $N_c' < P$.

C-D confine themselves to the equal-sharing system. However, in practice, the actual system does not seem to have developed entirely that way. Countries have been able to borrow from international institutions and to issue bonds denominated in domestic currency, and which are not subject to the same cross-default clauses as international debt. World Bank loans, for example, appear to have

²⁴ The consequences of changing this assumption will be discussed in the next paragraph.

²⁵ For the sake of definiteness, we assume that in case of indifference the borrower decides not to cheat.

enjoyed de facto seniority over private debt in several recent cases.

If initial debt is subordinated to new money, in the sense that the latter gets paid first, then Pareto optimality could always be guaranteed if cheating can be prevented. For the sake of definiteness, imagine that the original debt is D'' , so the economy suffers from a case of strong debt overhang. The following proposition can be shown: with no debt relief and credible conditionality the country's net income is zero while (giving marginal incentives to the debtor), the original-debt holders could secure themselves D_c . This shows that seniority-cum-conditionality new money may put debtors in a situation which is worse than if they and their creditors were left free to their own devices. Therefore, if cheating is not possible, debt subordination may not be to the advantage of the debtor, unless it comes together with sufficient debt relief.

However, debt subordination could be attractive if it was a subterfuge to actually force debt relief beyond D_c , or even beyond D_c' . It is my impression that some countries that could have benefitted from the equal-sharing system are issuing a sizable amount of domestic bonds, and have been fully servicing them, even when at the same time their foreign debt has at best been only partially serviced. Hence, these countries may actually be in a situation in which foreign debt is subordinated to domestic debt. Why would they do that? A possible explanation is that, contrary to our working hypothesis, some of these new-debt transactions do not increase net indebtedness of the country as a whole. For example, government could borrow from the domestic private sector in order to make transfers to the domestic private sector. Social welfare in the debtor country is,

in principle, not affected by this transaction. However, if domestic lenders get paid first, this amounts to a de facto repudiation of the old debt. This possibility is not considered in the C-D paper, and is ruled out in our previous analysis because there we implicitly netted out domestic obligations. I think analysis of this debt-repudiation mechanism, which provides a rationale for the apparently heavier reliance on domestic debt on the part of debtor countries, deserves further attention.

III. Final Remarks

The paper by Claessens and Diwan has brought to the surface the simple, but deep, economics of debt relief and conditionality (or, more generally, precommitment). The message of their paper is that conditionality helps. I agree, and I disagree.

I agree because some form of precommitment always dominates discretion. However, I disagree because precommitment may reduce the country's bargaining power and, in some cases, lower a debtor country welfare.

A question the C-D paper does not answer is, why did we end up where we are now? Rational lenders (and I suppose they would not accept any other adjective) could not possibly have envisioned a situation where lenders and borrowers could be better off by just redefining the loan contract. Otherwise, this would have already happened, and we (the intellectuals "we") would not be spending any time on this case.

Sachs (1988) has an explanation: creditors may be waiting for somebody--e.g., the taxpayers body--to bail them out. This sounds

reasonable. It could explain why banks are so reluctant to move a finger, and why they appear to be so belligerent about debt-relief strategies which do not involve the active participation of the taxpayer. My comments suggest that, in addition, the present stalemate may also be due to the banks' expectations that old debt could be subordinated to new debt cum conditionality, since I have shown that such an arrangement may be preferable for the banks to a market-based solution.

In the final analysis, the debt problem is a situation in which, as a general rule, it is not feasible to honor previous debt commitments. Furthermore, the C-D type model shows that efficient outcomes are not unique, and that, essentially, borrower and lender are involved in a classical bargaining situation, the outcome of which depends, quite naturally, on the relative bargaining power of the two sides. Consequently, the active participation of outsiders--i.e., third parties--will tilt the scales in one direction or the other, and the C-D model shows that the way scales are tilted may depend on very subtle mechanics.

An important observation that emerges from this paper's analysis is, therefore, that third parties ought to have a somewhat clear notion of what corresponds to a "fair" distribution of wealth between borrowers and lenders. My own suggestion is to try to extricate the corresponding "implicit contracts" from actual debt agreements, so as to help to enforce the spirit rather than the letter of these contracts. Thus, for example, debt contracts during the 1970's exhibited a small but nonetheless positive spread over L.I.B.O.R., which appears to exceed loan administration costs by a comfortable margin. Therefore, if lenders are risk neutral, such a spread could be interpreted as an insurance premium against less than full

repayment, and we can thus argue that debt relief was contemplated in the original contract. The problem now is to find out under what conditions debt relief was expected and, of course, how much.²⁶

²⁶ For a further discussion of these issues, see Calvo (1987).

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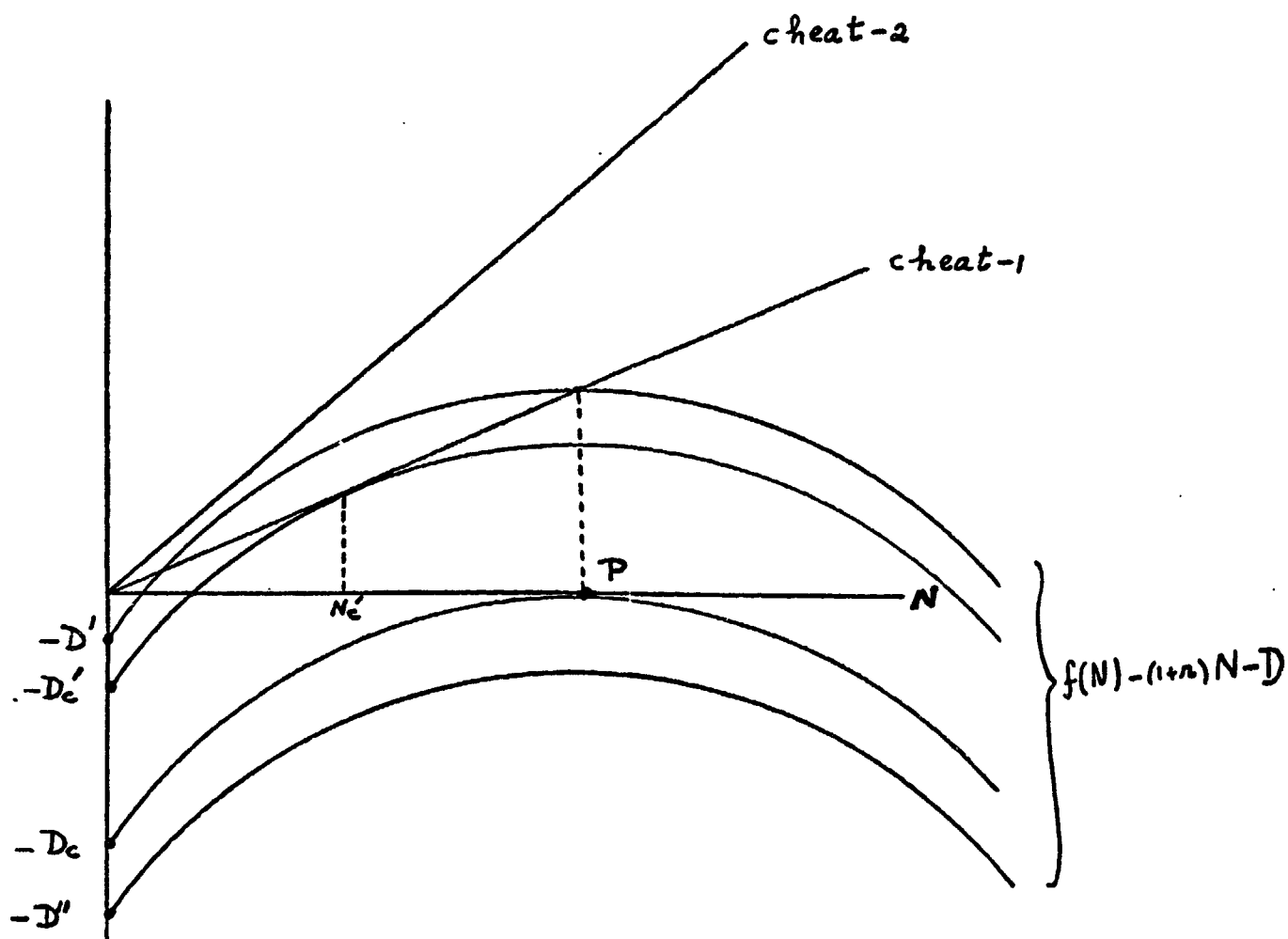
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FIGURE 1

DEBT RELIEF AND CHEATING



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